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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/542,718

07/20/2005

Koji Nakayama

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EXAMINER

ZIMMER, MARC S

ART UNIT

PAPER NUMBER

1712

MAIL DATE

DELIVERY MODE

05/16/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/542,718

**Applicant(s)**

NAKAYAMA, KOJI

**Examiner**

Marc S. Zimmer

**Art Unit**

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☒ Claim(s) 6-9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/17/05, 12/18/06</u> . | 6) <input type="checkbox"/> Other: _____  |

### ***Claim Objections***

Claims 6-9 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from another multiple dependent claim. See MPEP § 608.01(n). Accordingly, these claims have not been further treated on the merits.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3, and 6-9 are rejected under 35 U.S.C. 112, first paragraph, because the Examiner simply cannot properly ascertain the full intended scope of the claims given Applicant's usage of the phrase "per se" within the context of describing an essential reactant from which the claimed product is derived.

### ***Claim Analysis***

It shall first be noted that claims 1-9 are product-by-process claims. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process" *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Although the product is stated to have been

prepared in the presence of a basic catalyst, the reference need not teach this aspect provided, of course that an equivalent product is yielded when a non-basic catalyst is employed.

Further, Applicant is advised that, in the Examiner's estimation, a reference need not teach a condensation product of an epoxysilane to the exclusion of all other silanes for claim 1, and claims dependent therefrom, to be anticipated. Claim 1 merely stipulates that the product is derived from the condensation of a silane bearing an epoxy group. Were a reference to, for instance, describe a product derived from the polycondensation of an epoxy-functional silane and methyltrimethoxysilane, claim 1 would still be anticipated insofar as it would still be true that the product was formed by, "condensing at least one epoxy group-containing alkoxy silane."

While the Examiner is of the position that potentially dozens of references could be cited against at least claims 1-5 in light of the product-by-process format taken by these claims, the Examiner nevertheless attempted to focus the search on the specific synthetic approach mentioned in these claims. In general, bases appear to be far less commonplace as catalysts for preparing epoxysilane condensates ostensibly because hydroxides, amines, etc. are known to ring-open the epoxide ring in addition to facilitating polycondensation, which is often undesirable.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 10, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Morrison, U.S. Patent # 5,395,697. Morrison describes a coating composition for imparting abrasion resistance to plastic substrates (column 3, lines 39-40) comprising the reaction product of an epoxysilane and an amine hardener (column 3, lines 48-56). Structural depictions of suitable epoxy-functional silanes are offered in column 4 and these descriptions embrace the silanes disclosed in claim 2. Relevant to the present discussion, the term "epoxysilane" is said to embrace not only the monomeric compounds themselves but also partial hydrolyzates/condensates derived therefrom (paragraph bridging columns 3 and 4). Relevant to the present discussion, ammonium hydroxide is identified as a preferred condensation catalyst in column 8, lines 49-66 for preparing the aforementioned condensates.

Though not formally included in the Examiner's statement of rejection, Applicant is advised that, were they to address the multiple dependency matter summarized earlier, claims 6-9 would be considered unpatentable over this reference.

Claims 1-5 and 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Basil et al., U.S. Patent # 5,693,422. See the paragraph bridging columns 1 and 2, column 2, lines 33-61, column 3, lines 7-22, and column 3, lines 33-45.

Claims 1-5 and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Crivello, U.S. patent # 6,391,999. This reference describes the preparation and

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subsequent polymerization of polysiloxane oligomers bearing functional groups. The oligomers adhere to the general formula outlined at the top of column 2 and the preferred embodiments of the functional group FG include many containing an epoxide ring (columns 3 and 4 and column 5, lines 11-13). The oligomers are prepared (paragraph bridging columns 5 and 6) by base-catalyzed hydrolysis/condensation of trialkoxysilane bearing a non-hydrolyzable functional group and a second alkoxysilane selected from those compounds mentioned in column 6, lines 11-27.

Should Applicant properly address the issue of improper multiple dependency in claims 6-9, at least claims 6, 8, and 9 would be considered unpatentable over this reference.

The ISA cites several Japanese documents as being especially germane to the presently claimed invention. Of these, only one ( JP 3-47840) clearly seems to outline a similar invention in the abstract though this is not an acknowledgement that the others are not equally applicable. In any case, they are older Japanese patents for which translations are not readily retrievable and, thus, they are not cited as a foundation for rejection herein. (Another factor is that they would not serve to reject any more claims than those already rejected using the prior art cited *supra*.) The Examiner will obtain detailed translations of these documents if it becomes necessary later.

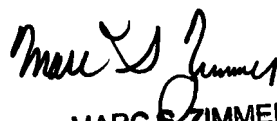
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 9, 2007

  
MARC S. ZIMMER  
PRIMARY EXAMINER